

Appl. No. 10/772,064
Amdt. dated March 28, 2006
Reply to Office Action of December 28, 2005

PATENT

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

Claim 1. (original) A method for making a semiconductor package comprising:

(a) molding a molding material around a leadframe structure having a die attach region and a plurality of leads, wherein the die attach region is exposed through a window in the molding material; and

(b) after (a), mounting a semiconductor die to the die attach region using a flip chip mounting process.

Claim 2. (currently amended) ~~The method of claim 1~~ A method for making a semiconductor package comprising:

(a) molding a molding material around a leadframe structure having a die attach region and a plurality of leads, wherein the die attach region is exposed through a window in the molding material; and

(b) after (a), mounting a semiconductor die to the die attach region using a flip chip mounting process, wherein the semiconductor die comprises a vertical power MOSFET.

Claim 3. (currently amended) ~~The method of claim 1~~ A method for making a semiconductor package comprising:

(a) molding a molding material around a leadframe structure having a die attach region and a plurality of leads, wherein the die attach region is exposed through a window in the molding material; and

(b) after (a), mounting a semiconductor die to the die attach region using a flip chip mounting process, wherein the plurality of leads include at least one source lead and at least one gate lead.

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Claim 4. (original) The method of claim 1 further comprising, after (b):
reflowing solder that is between the die attach region of the leadframe and the
semiconductor die.

Claim 5. (original) The method of claim 1 wherein the die attach region comprises
at least one aperture.

Claim 6. (original) The method of claim 1 wherein molding comprises placing the
leadframe structure in a molding tool.

Claim 7. (original) The method of claim 1 further comprising depositing solder on
the die attach region of the leadframe structure and within the window.

Claim 8. (original) The method of claim 1 wherein the plurality of leads
comprises a source lead and a gate lead.

Claim 9. (original) The method of claim 1 further comprising:
attaching a heat plate structure to the leadframe structure.

Claims 10.-20. (canceled).

Claim 21. (new) The method of claim 2 wherein the die attach region comprises
at least one aperture

Claim 22. (new) The method of claim 3 wherein the die attach region comprises
at least one aperture.

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Claim 23. (new) The method of claim 1 wherein a bottom surface of the die is substantially coplanar with a surface of the molding material.

Claim 24. (new) The method of claim 1 wherein the leads have surfaces that are substantially coplanar with an exterior surface of the molding material.

Claim 25. (new) The method of claim 1 further comprising depositing a first solder on the die attach region, and depositing a second solder the die.

Claim 26. (new) The method of claim 1, wherein after mounting, the die package is formed, and wherein an exposed backside of the die forms an electrical terminal.